ABSTRACT OF THE DISCLOSURE

The invention relates to an estimate of the seismic illumination fold (x, p) in the migrated 3D domain at an image point *x*, for a dip of vector *p* characterized in that the illumination fold I (*z, p; s, r*) is estimated for each (source *s*, receiver *r*) pair in the seismic survey, by applying the following steps: - determination of the reflection travel time $t_r(.x_r(p);s.r)$ from the source *s* to the specular reflection point *z*, on the plane reflector passing through the image point *x* and perpendicular to the dip vector p, and then return to the reflector *r*; starting from the diffraction travel time $t_d(.z;s.r)$ from the source to the said image point *x* and then return to the reflector *r*; - incrementing the said illumination fold I (X, *p; s, r*) related to the said (source *s*, receiver *r*) pair as a function of the difference between the diffraction travel time $t_d(x;s,r)$ and the reflection travel time $tr(xr(p)issr)$